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ABSTRACT

The argument of this booklet, one of a series intended to apply economic principles to major social and political issues of the day, is that entrepreneurs are central to the development of the American economy. In an historical look at American entrepreneurship, it is noted that entrepreneurs have become central figures in the American economy because they provide the innovative element that alters previous business practices. Moreover, this entrepreneurial spirit has permeated the history of the United States. For example, from the colonial period on, the importance of the right to private property and limited government intervention in the economy provided an environment conducive to entrepreneurs. It is noted that although entrepreneurs come from different segments of society, the thing that makes entrepreneurs unique is their ability to be innovators and explorers and to carry their innovations to the marketplace. Despite the changing environment that has brought greater government controls over business activity and private practice, the modern entrepreneur is alive and well, and despite fears that greater government regulation may have discouraged innovation and entrepreneurship, there are many new frontiers (e.g., the computer industry) open to the enterprising businessperson. (IS)

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Introduction

Henry Ford and John D. Rockefeller were highly successful entrepreneurs, but J. P. Morgan was not an entrepreneur at all.

Thomas Edison was both an extraordinary inventor and an imaginative entrepreneur, but inventor Samuel F. B. Morse proved to be a business failure.

The difference between an entrepreneur and a business person is not measured in success or failure, but in an individual's creative approach to the development, production or marketing of an object or a service.

An awkward French adjective, *entrepreneur* is a most difficult word to define.

The entrepreneur is a person who formulates a new idea or concept and carries it successfully into the economic order.

The entrepreneur becomes aware of a need, be it for a product or service and creates a business enterprise to fulfill that need. The entrepreneur seizes upon opportunities presented by our national economy and begins to do things that were generally not done in the traditional business routine.

Those individuals whom we call entrepreneurs have made capitalism in the United States a success. Over time, entrepreneurs have become the central figures in our modern economy, for they add the innovative element that alters previous business practices.

Entrepreneurs usually unite the major aspects of production—labor and capital—to create an object or render a service at a price that produces a profit for themselves and their investors. Such undertakings require good judgment, perseverance and knowledge. The entrepreneur must estimate probable importance of the product or service, consumer demand for it, and the means of manufacture and delivery. They must employ labor, purchase raw materials and find customers. And in the midst of these activities, the entrepreneur must be concerned with orderly process and economy.

Thus, the entrepreneur combines traits of inventor or innovator, superintendent, administrator and marketer. Is it any wonder that the rate of success is relatively low or that we marvel at those whose success is extraordinary—an Andrew Carnegie, Henry Kaiser, or Herbert Land?

The elements of innovation, management and adjustment to external forces are critical to entrepreneurship. The decision-making process determines the success of entrepreneurs who seek a positive advantage within the market for their product or service. Their purpose is to minimize risk and uncertainties—and to gain necessary profits. While those who provide only capital can be called investors, financiers, or capitalists, and those who simply keep the organization functioning day-to-day can be called managers, only the entrepreneur has the vision, courage, ideas and creativity to develop a new business concept and carry it to success.

An Entrepreneurial Environment

The entrepreneurial spirit permeates the history of the United States. From colonial times to the present, our society and the laws it created encouraged the rise of entrepreneurs. Society encouraged the exploitation of resources and the manipulation of markets, within certain limitations. The virtually unregulated economy allowed for the emergence of individual talents and dynamic personalities. Entrepreneurship found a comfortable home in our capitalist society.

Without private property, entrepreneurship cannot function. English Common Law, the Declaration of Independence, the U.S. Constitution and subsequent state constitutions became a vast legal framework in which the entrepreneuer could operate. The right to own land became the right to own factories and distribution systems. Laws made it possible to buy or sell real property, such as land and houses, and intangible property, such as stocks or bonds. The states made incorporation of enterprises easy, and sales of stocks and bonds began to flourish early in the nineteenth century. The sale of securities, in turn, gave entrepreneurs access to capital to carry out their schemes. In no other country were entrepreneurs so well protected and encouraged as they were in the United States.

Ironically, in 1776, just as the colonists sought political independence from England, Adam Smith, a British economist, wrote a book arguing that government should not attempt to direct or control economic activity. He believed that competition and a free market encouraged economic growth. Smith not only revolutionized economic thought, but also suggested the basis upon which the new nation should establish its economic order; that is, individual initiative and little or no governmental intervention. Smith envisioned a system based on a free market, and the new American nation adopted his views.

Adventurous men and women found incentives for exercising entrepreneurial skills in a society that protected and encouraged profitable enterprise. The search for profit came to dominate the political, religious, and educational sectors. Their success made capitalism, with all its obvious advantages and defects, believable to each succeeding generation of Americans.

The cultural environment is a key element for the entrepreneur. The entrepreneurial personality type is present in all societies, but only in a few nations can these individuals exercise such traits. Some societies reject acquisition. Others exert governmental controls to preclude profit making. The absence of legal protection for private property makes successful entrepreneurship almost impossible.

American culture provided an environment conducive to entrepreneurship. Society emphasized the individual and the right of self-determination. Americans believed that they had the ability to control their society and even the forces of nature. Society, they concluded,

should be equalitarian, and economic opportunity should be open to all. The culture stressed the importance of progress, particularly when progress was measured by the physically spectacular, such as a factory or a skyscraper. And finally, Americans assumed that change was normal, indeed inevitable, and represented progress. In such an environment, entrepreneurial activities would be cultivated, encouraged, and rewarded.

The Entrepreneur

While economists, business historians and sociologists may argue about a clear definition of entrepreneurship, they agree that not all individuals have the traits needed to become successful entrepreneurs. They also agree that these individuals are central to the well-being of our economy, and that these individuals must be creative and innovative. And they agree that society exerts both positive and negative influences on the entrepreneur.

The restless innovators, then, occupy the center stage and are both the principal actors and the directors. They are changed by society, but they also influence or alter their social environment. A merchant in a Middle Eastern bazaar who simply buys and resells traditional goods is not an entrepreneur, but the occupant of the next stall who acquires new products, studies the local consumers, and introduces fresh marketing techniques is truly as much an entrepreneur as A. T. Stewart, who created the American department store in the nineteenth century.

Entrepreneurs do new things or do old things in a new way and thereby alter the business system. Some would characterize them as the "movers and the shakers" in our economic life. They possess managerial expertise, insight and sheer force of character. Each entrepreneur determines the goals and objectives of his enterprise and seeks adequate capital to carry out those goals. They establish the strategy to produce and market a commodity or service while anticipating shifts in patterns of consumption and the rise of competition.

All the while, the entrepreneur seeks good relations with labor, government and the public. But not all successful entrepreneurs engage in all these activities to the same extent. They enter the world of entrepreneurship in a variety of ways.

Some entrepreneurs emerge from the world of invention, while others pioneer in the areas of marketing or management. And some create new administrative structures to carry out business projects or introduce new products. The inventor who devises a marketable object and then sells the patent is not an entrepreneur. The marketer who accepts a product developed by another and sells it in a "tried and true" method does not innovate. The manager who accepts the routine in which he functions with no effort to be creative is not an entrepreneur.

The Inventor as Entrepreneur

The old adage that necessity is the mother of invention has some validity, but it is not simply necessity that leads to invention. Rather it is a combination of social conditions and individual insight, often called genius.

Everyone is more or less a participant in the creation of new products. We can be exposed to the same ideas, thoughts, and knowledge, but as unique individuals, we absorb differing portions of that knowledge and gain different insights. This marks the first step in invention. Because of the information gained, an individual senses that something is missing, or that there is an unfulfilled need.

For example, James Watt, the English mechanic, did not invent the steam engine, but he did devise a condenser that helped perfect and improve the steam engine. Watt was a mechanic trying to repair a steam engine built by Thomas Newcomen in about 1712. The engine had a cylinder 21 inches in diameter, and a 7-foot, 10-inch piston. The piston made twelve strokes per minute and developed about seven horsepower. Live steam injected into the top of the cylinder pushed the piston down, and the depleted steam was slowly ejected. The machine was slow, bulky, and powerless. Watt's condenser enabled steam to be injected at either end of the cylinder, thus doubling the power stroke, and he improved the system for ejecting the steam more rapidly, making it possible to have more strokes per minute.

Watt obtained patents and financial backing and began manufacturing his greatly improved engine in 1769.

Watt not only had absorbed the basic technology of the steam piston, but also saw a real weakness in the system, and by a fortunate combination of information, devised a way to solve the problem. The solution, injecting live steam at both ends of the cylinder and using the condenser for the rapid injection of live steam and the ejection of "dead" steam, marked the moment of invention. By obtaining funding for production, and in refining his product and marketing it, Watt became an entrepreneur rather than simply an inventor.

The final phase of invention is essentially an entrepreneurial function: the final revision and adaptation for the marketplace. The inventor-entrepreneur steps beyond the role of inventor to market his invention, bringing a change in consumption patterns and in the quality of life.

The experiences of Cyrus McCormick provide another good example of the inventor as entrepreneur. Born in 1809 on a farm in Rockbridge, Virginia, McCormick grew up watching his father attempt to develop a machine to cut wheat. At that time wheat was harvested by hand using a cradle, a scythe or blade with a wooden frame to catch the wheat sheaves. One man with a cradle could harvest almost three-quarters of an acre of wheat a day, for wages of $1 to $3.

Despite continuing efforts, McCormick's father failed to develop a

workable harvesting machine. After his father's final failure in a field trial of harvesting machines, the elder McCormick turned the project over to Cyrus. He had absorbed his father's mechanical information and skills, and was well aware that here was a serious agricultural problem that needed a solution.

After some experimenting, he hit upon the right combination of tools. He substituted a saw-toothed cutting bar for the straight knife-like bar his father used. Instead of "beaters," Cyrus substituted a revolving reel which pushed the stalks across the cutting bar. He continued to perfect and improve his harvester, and obtained a patent in 1834. But he was not yet an entrepreneur because he had made neither an effort to produce or sell his machine, nor did he turn it over to someone who would.

Curiously, Cyrus McCormick parked his harvesting machine in a barn and turned his hand to farming and the operation of an iron foundry. In 1838 his iron business failed, and hard times forced him to attempt to sell his reaper. He sold the first machine in 1840, and built additional harvesters he personally demonstrated to neighboring farmers. By 1844 he had sold fifty reapers, all of which he built in his own workshop. The inventor had become an entrepreneur, if on a relatively small scale.

In 1847 he contracted with a Chicago firm for the manufacture of his reaper, and by 1850 had become the sole owner of his own manufacturing plant. But by then Cyrus McCormick was only one of thirty companies manufacturing reapers, many of which had borrowed or stolen his design. McCormick's skill in manufacturing and marketing in many ways exceeded his inventiveness. His success came from the production and mass marketing of the reaper, rather than from patents or royalties on his invention.

By 1856 his Chicago plant could produce 4,000 reapers per year. He sold the machines by advertising nationally at a time when advertising was a novelty. He challenged competitors to field trials, matching his machine against theirs in a public contest. McCormick offered prospective buyers easy credit terms at a time when buying on credit was unknown.

Farmers anywhere could buy a reaper for a $35 down payment, plus freight costs from Chicago, with the balance of $125 due December 1. Despite the constant entry of new competitors and new kinds of machinery, McCormick was able to dominate the reaper market until almost 1870, when the improved Marsh harvester came on the market. McCormick had learned a basic principle of large successful business—to diversify products and market lines. He began producing plows, hay bailers, and other implements, creating marketing wars between McCormick's Harvesting Company and Deering Plow Company. These ended only with the creation of McCormick-Deering International Harvester Company in 1903.

In some respects, the career of Thomas Alva Edison parallels that of McCormick. Edison not only invented electric lights, generator systems, phonographs, storage batteries, dictating machines, the mimeograph and moving-picture projectors, but he also perfected, produced, and marketed his inventions. Edison always was interested in the commercial possibilities of his devices, as most inventors are, but he seemed to be unusually adept at establishing businesses to manufacture and market them.

Born in 1847, in Milan, Ohio, Edison had little formal education. At age 12 he was hawking newspapers and candy on a passenger train. He became a telegraph operator in 1863, and was always an inveterate tinkerer and experimenter. He patented his first inventions, a vote recorder and a stock ticker, in 1869, and began to manufacture both the stock ticker and a telegraph transmitter that could send four messages at once. Both products proved profitable. In 1876, Edison organized the first commercial research laboratory in the United States at Menlo Park, New Jersey. Within a few years he developed a carbon telephone voice transmitter, the phonograph, and the carbon filament light bulb.

Edison needed $500,000 in capital to improve and market his light bulb. Bulbs without electric transmission and generating systems were useless. He obtained financial backing from J. P. Morgan, built generators and transmission lines, and in 1882 turned the switch lighting the Morgan offices in New York City with incandescent lights. Edison's lighting systems were not only better, but also less expensive than the prevalent gas lights. Within a decade gas lighting had given way to electric.

Edison Lamp Company manufactured the bulbs and Edison Electric Light Company built the generators, laid the underground cables, and installed the wiring in buildings. In 1889, these firms combined to form Edison General Electric, and Edison retired to his laboratory at Menlo Park.

In 1892 Thompson-Houston Company, organized by two high school science teachers, Elihu Thompson and E. J. Houston, to build improved electrical generators, merged with Edison General Electric to become General Electric Company. Charles A. Coffin became president of the new company, which soon became involved in a bitter rivalry with Westinghouse Electric Company. The contest, but not the competition, ended in 1896 when Westinghouse and General Electric organized a "patent pool" from which both could share rapidly changing technology. Edison, meanwhile, withdrew completely from the management of the company.

More recently, Herbert Edwin Land, born in 1909 in Bridgeport, Conn., has tread much the same entrepreneurial path as Edison, but in a different industry. Land attended Harvard University, where he became interested in the polarization of light. He developed a plastic sheet that would not produce a flare or bright reflection, and in 1933 in a basement

laboratory he began to manufacture anti-glare plastic sheets and camera filters. In 1936 he organized American Optical Company to manufacture sunglasses using the new plastic lens. The following year he organized Polaroid Company, and obtained patents on his plastic and its processes of manufacture.

Land next developed a new film process that made "3-D" movies possible. Although Polaroid did well financially, Land's most important development was the invention of a one-step photographic process that allowed a picture to be instantly developed. Polaroid began production of the revolutionary Polaroid Land Camera in 1949, and followed with the production of color cameras in 1969. Land's new process competed directly with the giant Eastman Kodak Company, which had enjoyed a virtual monopoly on photographic processing since the 1880s. By 1973, Polaroid was manufacturing 25,000 cameras a day, but Kodak had responded with its own instant photography. Land, as Edison, retired from active management of the company and returned to his labs.

The Owner-Manager as Entrepreneur

While an Edison or a Land might retire to the laboratory once their enterprises had been launched, other entrepreneurs manage their creations. They continue to be active in designing new products, in devising new marketing strategies and in meeting the inevitable competition that emerges when a profitable sector of the economy is created. Often the firm becomes an extension of the owner-manager's personality. An excellent example is Mary Kay Ash and Mary Kay Cosmetics.

Personal enterprise and personal involvement are the essence of these entrepreneurs because they place their own capital at risk, as Mary Kay Ash did. She formed Mary Kay Cosmetics in 1963 with $5,000 in capital, and by 1979 the firm had sales exceeding $90 million and a net income of more than $9 million. She produced a line of cosmetics sold by sales representatives whom she called "beauty consultants." By 1980, she had 70,000 consultants who marketed the firm's five basic, pink-packaged products.

Unlike firms such as Avon, which had a wide variety of products in their catalogues, Mary Kay Cosmetics sold a limited line, most of which it manufactured. The consultants held "beauty shows" for small numbers of women in private homes where the products were demonstrated. They had no territories and no franchises. Mary Kay Ash motivated her sales force with an almost evangelistic fervor, and some of the "consultants" had yearly earnings in excess of $100,000.

The secret of her marketing success was the mobilization of female sales personnel. Mary Kay Cosmetics took advantage of the changing role of women in the 1970s, and an untapped labor pool to develop a unique approach to marketing.

An annual convention would attract as many as 8,000 consultants who received pink cars, vacations, jewelry, and mink coats as rewards for successful sales. They sang "Mary Kay Enthusiasm," and attended sales seminars led by Mary Kay herself. The absence of territories allowed her consultants to transfer their work when their husbands moved. They paid for the cosmetics in advance so there were no accounts receivable. Until recently, there was very limited national advertising. As the consultants enthusiastically sold their line, they were taught goal setting and self-motivation and were given public recognition for their achievements.

While Mary Kay Ash perfected new marketing systems for cosmetics, Ray Kroc transformed a small hamburger chain in California into the truly golden arches of McDonald's Corporation through innovative marketing techniques. As a young man Ray Kroc became a successful salesman and regional sales manager for Lily-Tulip Cup Company. In 1937, after seventeen years of service, he left Lily and became the exclusive distributor for the Prince Castle Multimixer, a machine that could mix six milkshakes at once. In 1952, Kroc was intrigued and puzzled by an order for eight multimixers for a single restaurant in San Bernardino, Calif.

Kroc flew to California and met Richard and Maurice McDonald. Their hamburger drive-in restaurant stressed cleanliness, efficiency, and an assembly-line process of cooking low-priced hamburgers that were served minutes after being ordered. The original drive-in also featured the famous golden arches. Kroc was impressed. He obtained a contract from the McDonald's giving him exclusive franchise rights for the restaurants. Kroc was to receive $350 from each franchiser and 1.9 percent of gross receipts, of which 1.4 percent went to Kroc and .5 percent to the McDonalds.

In 1957 he had 37 franchised restaurants. By 1959, over 200 were in operation. In the 1960s, eager franchisers clamored for McDonald sites. Kroc bought out the McDonald's interest in the operation for $2.7 million, and in 1963 sold McDonald's stock to the general public. The stock, which was offered at $22.50 per share, quickly rose to $50. By 1980, McDonald's had become an international household word, and young Americans were literally being weaned on McDonald's hamburgers. Sales exceeded $6 billion annually.

While Kroc had not created or invented the McDonald "system," he assumed control, and converted a small family enterprise into the largest and most successful fast-food business in America. In so doing, he helped to alter our eating habits and those of millions abroad. Ray Kroc is a good example of the owner-manager as entrepreneur.

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The Manager As Entrepreneur

While managers as entrepreneurs do not often have a personal style as dramatic as a Henry Ford or a Mary Kay Ash, their contributions can have a significant impact on business administration, structure, and marketing techniques. The entrepreneurial manager is not a "man in a grey flannel suit" who simply aids the flow of paperwork and participates in group decisions.

In modern, large-scale firms there can be many executives and managers who seek and find ways to develop creative responses to problems of design, manufacture, sales, and distribution. In effect, these individuals have managerial responsibilities and find entrepreneurial opportunities which they exercise. They can exercise their entrepreneurial talents only in a favorable atmosphere which can be created by the chief executive officers of the firm. There must be a system of rewards for these managers and there must be a promotional structure which allows upward mobility through the corporate structure. Unlike earlier managers who were entrepreneurs, the present occupants of these positions must command more facts, synthesize more advice, be aware of the much greater impact of their decisions, and often make those decisions in a much shorter time.

While decision-making in a vast enterprise is often plural, it remains the critical operation in entrepreneurship. Successful professional managers are generally not large security holders in their firms, but their decisions can have an immediate effect on millions, indeed billions, of dollars in capital invested by others. The significance of the manager as entrepreneur can be seen clearly in the transportation sector of the economy, through the experiences of Daniel Willard (railroading), Alfred Sloan (automobiles), Juan Trippe (aviation), and Lee Iacocca (automobiles).

The railroads were the nation's first large businesses, and as such became the models for administrative structures used in steel, petroleum, and other industries. The many complexities involved in moving tens of thousands of cars of freight over hundreds of miles of track to dozens of destinations required a business structure that was efficient and effective.

A hierarchy was established with clearly assigned tasks given to managers and workers alike. New operating and accounting procedures had to be devised and the routinization of work had to be established based on rigidly enforced time schedules. Thousands of young men entered the railway industry, which offered opportunities for advancement. Many would later leave railroading to apply their acquired managerial skills in another business.

Others, like Daniel Willard, made railroading their life-long profession, and developed entrepreneurial techniques to make the railways even more efficient arteries of commerce. Unlike the unsavory Jim Fisk,

Daniel Drew and Jay Gould, and other so-called "Robber Barons," the manager-entrepreneurs operated the railways for profit, not for the purpose of manipulating their securities.

Born in Vermont in 1861, Willard grew up on a farm, and at age 18 went to work in a section gang on the Vermont Central Railroad. He moved on to other lines, advancing to fireman, engineer, trainmaster and division superintendent. An excellent manager, Willard became vice president of the Chicago, Burlington and Quincy. On that line Willard created a new personnel system that used demerits rather than harsh discipline. The result was a high degree of morale on the CB&Q.

Willard's work led the management of the Baltimore and Ohio to offer him the presidency of that company, a post he would hold for several decades.

He rebuilt and re-equipped the railway, and soon the B&O was one of the industry's leaders. Willard established good relations with the employees and was sympathetic to the grievances. After all, he had been one of them. A "cool" negotiator, he won their respect, and when the depression of the 1930's forced Willard to ask them to take a 10 percent wage cut, they agreed. He reduced his own salary from $150,000 per year to $60,000. His company weathered the depression, and Willard's creative management became a model for other lines.

Even as the railways served as the basis for industrial organization in the nineteenth century, Alfred P. Sloan made General Motors Corporation the model for industrial organization in the twentieth century. Sloan created for GM a highly innovative administrative structure that gave other managers opportunities to exercise their entrepreneurial talents. It took all of Sloan's skills to salvage GM, which was on the brink of bankruptcy.

General Motors had been created in 1908 by the colorful William C. Durant. Billy Durant decided to bring together many of the hundreds of car manufacturers in one company which would produce cars in all price ranges and would include its own parts suppliers. He brought together Buick, Cadillac, Oldsmobile, Oakland, and eventually Chevrolet. But Billy overextended GM, and even massive investments by the DuPont family could not save the firm. The board of directors ousted Durant, and brought Alfred Sloan, head of Hyatt Roller Bearing Company, into GM's management.

An organizational genius and creative manager, Sloan devised a plan to restructure GM in 1920. Where Durant's erratic management had driven out young executives like Charles Nash and Walter P. Chrysler, Sloan tried to develop a structure that encouraged young talent. He made GM a single coordinated enterprise with a general office that formulated broad corporate goals and policy for the operating units. He gave the operating divisions autonomy to encourage innovation and initiative. While some activities would be coordinated at the top, the general office would not be concerned with details. There were clear

lines of authority and responsibility, and each operating unit had to establish actual cost and profit figures for review by the corporate executives. The corporate management would do marketing forecasts for the operating divisions and estimate future economic conditions.

Sloan assigned each division a specific function; Chevrolet competed directly with Ford, while Cadillac would be the prestige line. His plan emphasized the crucial role of the entrepreneur in management and had an impact far beyond GM. Even Henry Ford would reluctantly accept the Sloan concept and employ it. The basic concepts Sloan developed would be utilized by many major corporations, and become the basic structural device in American industry.

The manager-entrepreneur's decisions about allocation of resources for new ventures represents a serious risk of the capital of others, indeed even the future of the enterprise.

But individuals such as Juan T. Trippe took the risk and altered their entire industry. In Trippe's case, the aviation industry would reflect his foresight and courage several times. An aviation pioneer, Trippe invested in several airlines in the 1920s, and in 1927 won an air mail contract to Cuba. He bought huge multi-engined flying boats in the 1930s, and his Pan American Airways expanded over the Caribbean, then to Europe and across the Pacific. He had Charles Lindbergh find the most feasible routes for the fleet of "Clippers" which soon linked the United States with England and even China. The federal government encouraged Trippe to expand in Latin America before World War II to counter the German and Italian airlines in that market.

He constantly sought better aircraft capable of longer flights with more passengers. With mail subsidies from the government and technological advances from Boeing and Martin, Pan American became America's primary international airline.

The intervention of the war and the growth of other international carriers put great pressure on Trippe's firm. Thus, he decided that what was needed to meet competition was a giant, efficient airliner, and between 1965 and 1970, Pan American and the Boeing Company risked over $2 billion in capital on the development of the Boeing 747.

Trippe sought a plane that could carry passengers and freight over great distances at low costs. He projected a massive increase in international air travel, and wanted a plane that could outdistance his competitors. Boeing wanted to produce an aircraft that would put it in the forefront—ahead of Douglas, Lockheed, and the European plane builders.

Pan American had to invest $500 million before the plane could even be tested. For four years the process continued with changes in designs and engines. But the gamble paid off. The 747 is an excellent plane, Pan American got a head start through its initial order, and Boeing would sell hundreds of the model, pushing Lockheed out of the passenger plane business. Trippe helped to create an entirely new

concept in long-distance air travel, but at a monumental financial risk to his firm.

Courage and perseverance are indeed traits of the manager-entrepreneur, as Lee A. Iacocca's career demonstrates. The son of Italian immigrant parents, Iacocca was born in Allentown, Pennsylvania, in 1924. His father made a considerable fortune in real estate, but the Great Depression took much of his wealth.

One of his businesses included car rentals, mostly Ford cars, and young Lee, originally named Lido, determined that his life's goal was to become a Ford Motor Company executive. After receiving his bachelor's degree from Lehigh University in 1945, he joined Ford's executive training program, and then went to Princeton for a master's degree in 1946. He became a district salesman for Ford in Pennsylvania, and by 1960 had become general manager of the Ford division of the company.

A brash, colorful, outspoken executive, his success in developing sales campaigns brought him to the attention of Robert McNamara, one of Ford's "bright young men," and Henry Ford II. As head of Ford division, Iacocca determined to develop a new, "sportier" Ford, and spent $50 million creating the Mustang, which appeared in 1964. The car was a brilliant success, and Iacocca joined the board of directors of Ford in 1965. During the next fifteen years he moved up in the corporate structure of Ford to become Chairman of the Board and Chief Operating Officer in 1979. It was assumed in Detroit that he was Henry Ford's heir apparent, but the founder's grandson fired Iacocca. He then took over the ailing Chrysler Corporation.

In 1980, Chrysler Corporation was an industrial disaster. Never fully recovering from World War II, its dealer network a weak third to GM and Ford, Chrysler had been in trouble for more than a decade. Its cars were not stylish and often were not well built. Losses in 1974-1975 led to cutbacks in research and development, and a massive overseas investment program proved to be a gross error. The company lost $205 million in 1978 alone.

Iacocca devised a grand strategy to save the corporation. He closed plants and cut the labor force from 140,000 to 79,000. He convinced the United Automobile Workers union to take pay cuts, but put union representatives on the Chrysler board of directors. Iacocca went to Washington and arranged for $1.5 billion in federally guaranteed loans against considerable political opposition. Chrysler creditors and suppliers had to accept reductions in debts and prices to keep the company alive. Subsidiaries, such as the tank manufacturing division, were sold to raise cash.

But more dramatically, Iacocca went on television himself to sell Chrysler products and to preach the survival of the firm. He emphasized the quality of the new K-cars and his determination to save Chrysler. While cutting costs by $1.2 billion between 1981 and 1983, he also introduced new styles of cars, including a production-line convertible.

The recession of 1981-1982 made all these efforts questionable. Indeed, an issue of *Fortune* in February 1981 said the future of Chrysler was "bleak." But the breakeven point had been cut by half, Chrysler's market share rose to more than 10 percent, and increasing sales in 1983 produced profits. This allowed Iacocca to pay off the federally guaranteed loans far ahead of schedule.

Barring a return to the deep recession days of 1981-1982, Chrysler looks like a major automobile firm again. National news magazines have even suggested that Iacocca's next presidency might be located at 1600 Pennsylvania Avenue in Washington. His dramatic flair, perseverance, and bold initiatives demonstrated that opportunities for managerial entrepreneurship still exist in our economy in the 1980s.

The Modern Entreprenuer

Historians often trace the entrepreneurial spirit to the frontier. During the rapid expansion of the United States from the Atlantic to the Pacific Ocean, the frontiersmen, trappers, miners and farmers initiated social and economic changes. They settled new lands, opened mines, established trade routes and poured forth an abundance of agricultural crops. They operated in an almost pure, free-market economy largely beyond the influence of government. As the society matured and expanded, government began to constrain and regulate the frontiersman. An inherent conflict between the entrepreneurial spirit and government regulations began.

America's industrial revolution created a different kind of entrepreneurship, one primarily engaged in technological innovation and in the organization and arrangement of new business structures. The corporate form provided an exciting and dynamic instrument for economic opportunity.

Elias Howe, John Deere, Cyrus McCormick and Samuel Colt are among the innovators, technicians and entrepreneurs who paved the way for the advent of the industrial giants, led by men such as John D. Rockefeller of Standard Oil and Andrew Carnegie of Carnegie Steel. In turn, the vast corporate wealth became organized into trusts or monopolies in petroleum, farm machinery, sugar, flour, tobacco, and many consumer products.

As the economy became more complex and the power and influence of the private corporations grew, demands for government intervention on behalf of individual liberty and property rights became louder. The results were the reforms of the late nineteenth and early twentieth centuries that brought government into essentially "non-market" control in certain areas. In other words, government began to influence economic decisions, but not as a consumer or as a seller in the marketplace, but rather as a regulator or rule-maker.

For example, the Interstate Commerce Act of 1887 created the Interstate Commerce Commission, which was authorized to review rates charged by railroads to see if they were reasonable and just. The act was largely ineffective until additional legislation broadening the powers of the ICC was passed by Congress after 1900.

Similarly, the Sherman Anti-Trust Act of 1890 was supposed to prevent monopolistic practices. The Meat Inspection Act and the Pure Food and Drug Act of 1906 required government inspection and certification of meat, food, and drug products. The Clayton Anti-Trust Act of 1914 established broader controls over corporations, prohibited interlocking directorates (by which officers of one company controlled or influenced other companies by having membership on their boards of directors), and forbade giving one customer lower prices than another or giving contracts only to preferred customers.

The Federal Reserve Act of 1916 created a new government-controlled national banking system, and the Sixteenth Amendment to the Constitution established the graduated income tax, which clearly affected economic decision-making. Thus, in the twentieth century the political and economic environment in which the entrepreneur operated changed markedly from that of the frontiersman.

But by no means did entrepreneurship die. On the contrary, the early twentieth century witnessed the formation of many new businesses and the development on new technology, particularly relating to the automobile and the expansion of electrical power in industry and in the home.

The depression of the 1930's, the New Deal, and World War II again altered the relationships between government and the private economy. Large-scale public spending, welfare programs, tax incentives, business subsidies, and the proliferation of regulatory agencies became commonplace.

Increased regulation by the state and federal governments—especially the latter—limited the range of choices open to entrepreneurs. Even as the federal government enacted additional laws regulating the economy in the areas of labor, safety, environmental protection, and foreign trade, it created quasi-federal corporations (Conrail), guaranteed the loans of firms in financial trouble (Lockheed and Chrysler) and entered the railway passenger business (Amtrak).

In the decade of the 1970s alone, the budgets of the federal regulatory agencies increased from $660 million to more than $5.5 billion. The employees of those agencies grew from 27,000 to 87,000. It is estimated that the annual cost of federal regulations reached $90 billion by 1980, when such restrictions added an average of $600 to the cost of an automobile and seven cents to the price of a pound of hamburger.

A growing negative response to the proliferation of these agencies and intervention by government in the economy led to demands for "decontrol" or "deregulation" of the airlines, petroleum prices, rail-

ways, trucking, banking and other enterprises. One reason for the reversal of almost 80 years of growing regulation was the concern that entrepreneurship was being diminished and the total economy was being grievously harmed.

Despite the fears of many economists that innovation, invention and entrepreneurship are discouraged, institutionalized, or destroyed by government regulation, such regulation has created new opportunities, such as the manufacture of pollution control devices, seat belts for automobiles and national chains of tax consultants to help the taxpayer deal with the mass of government regulation. For example, insurance companies now offer insurance against an Internal Revenue Service income tax audit. But for the most part, the entrepreneur had already left the government and its regulations behind, and was moving into new and largely unregulated territory.

Computers spawned a host of new entrepreneurs engaged in equipment design and programming. Modern electronics created cable television companies which now compete with satellite "dish" receivers. Cordless telephones, stereophonic equipment, word processors, and micro-computers all are fast moving frontiers for the entrepreneur. Indeed, the entrepreneur both creates change and thrives on change. Rapid change generates new problems, new needs, and new opportunities. This has been especially true in the computer industry.

Computers and Hi-Tech Entrepreneurs

Early computers, using the old-style vacuum tubes, were massive, terribly expensive, and prone to constant breakdowns. The problem of keeping such systems physically cool so that they did not burn out was great. The systems used by NASA at Cape Canaveral, Fla., during the early days of space flight, the not-so-long-ago 1960s , occupied buildings the size of a city block.

In 1948, Dr. William Shockley and his associates at Bell Laboratories developed a solid-state transistor to replace the combersome vacuum tube. It soon became possible to build computers with enormous capability and memory in desk-size units. Miniaturization created opportunities for startling developments in electronic components of every kind. In 1954, the silicone transistor, which could store far larger bits of memory, was developed by Gordon Teal, an associate of what was then a relatively small electronics firm, Texas Instruments. Between 1954 and 1960, as transistors came into widespread use in almost every industry from auto manufacture to missiles, Texas Instruments sales rose an average of 40 percent a year.

Over the next 20 years, sales continued to increase an average of 30 percent each year. Almost none of the products manufactured by Texas Instruments today, which generate almost $2 billion in yearly sales, existed before World War II.

Just as Texas Instruments in the 1960s and 1970s brought innovative new products and techniques to the computer and electronics market, a number of minicomputer firms in the past decade have brought almost revolutionary changes in the "personal computer" industry. Apple, Atari, Intel and Commodore have created a personal or home computer industry where there was none a decade ago. Thanks to enterprising entrepreneurs such as the two "Steves," Steven P. Jobs and Stephen G. Wozniak, the founders and creators of Apple computers, computers have moved from industry to the farm and home.

Jobs and Wozniak graduated from Homestead High School in Santa Clara, Calif., in the heart of the developing "Silicone Valley." They were self-taught computer whizzes who began to work together at the Home Brew Computer Club in Palo Alto, where they were employed by various electronics companies. The two Steves decided that a small multi-use, essentially portable computer was badly needed. They worked together in Jobs' parents' home designing the computer, and then proceeded to build one in the garage. They were so satisfied with what they built that they took it to a local computer store owner who ordered 25 of the computers. Jobs and Wozniak, then in their early 20s, proceeded to personally build and fill the orders even as demand soared. The business quickly outgrew the two Steves.

At this critical juncture, A.C. Markkula, a marketing manager with Intel Corporation, which manufactured integrated circuits, offered his financing and marketing expertise. He invested $91,000, obtained additional credit, and soon attracted $600,000 from other investors. Markkula became chairman of the Board of Directors in May 1977, and in June 1977, Michael Scott became president of Apple Computers.

Markkula is an excellent example of the modern manager-entrepreneur who directed the firm from a fledgling operation into a giant enterprise. One of his great innovations was, with the aid of the public relations firm of Regis McKenna, to market the Apple as an inexpensive "home personal computer," rather than an expensive minicomputer. The idea was that one day there would be, or should be, a computer in every home, just as there was a car in every garage, or a television set in every den.

Expanding sales and production required new capital, and in 1980, Apple Computers sold stock to the public. Shares were offered at $22, and quickly rose to $29 and later to $33 per share. In that year, Apple sales were $117 million with earnings of $11.7 million. It was estimated at the time that Steven Jobs, then 25, held stock worth $165 million; and Markkula and Scott held shares valued at $154 and $165 million respectively

But the Apple story was not one of unblemished success. The standard Apple II computer was supplemented, too hastily it appeared, with the production of the more sophisticated, but less reliable Apple III. In mid-1981, Scott resigned the presidency, and Markkula stepped in

until 1983, when he turned the leadership position over to John Scully, a former president of Pepsi-Cola Company and a marketing expert.

Computers are used in banking, business, publishing, education, robotics, recreation, construction, manufacturing, space, and defense, to mention only a few areas of application. Indeed, the possibilities appear almost infinite, thus creating a veritable playground for the entrepreneur.

One important facet of the industry that particularly attracts the enterprising entrepreneur is "software." In computers, the "hardware" is the electronic unit, the "software" is the program which makes the equipment perform assigned tasks in a designated way. A host of young people have earned reputations—and fortunes—by designing computer programs for games and various tasks. For example, Daniel Bricklin discovered that solving problems on his calculator at the Harvard University Graduate School of Business Administration was awkward and often frustrating. He designed Visicalc, a program which has become one of the most popular for use by executives, accountants, and home owners. In 1978, he and a friend, Robert Frankston, invested $16,000 in their Software Arts firm which markets Visicalc and other programs. Visicalc has sold over 100,000 copies at $200 each.

Similarly, Seymour Rubenstein organized Micro-Pro International in mid-1978, and with John Barnaby, developed and marketed one of the most successful word processing programs called WordStar. Sales of WordStar and DataStar, which handles tabulations, problems, and columns of figures, have exceeded $10 million. Bill Gates and Paul Allen designed and successfully marketed over 500,000 copies of the widely used Microsoft Basic, which has generated over $4 million in earnings for their company.

While the "hardware" and "software" aspects of the computer industry continue to experience rapid change and development, one of the most recent spin-offs has been the emergence of yet another industry—robotics—which holds exciting possibilities for the entrepreneur.

Although the "high technology" industries appear to constitute the frontier in entrepreneurship, for every "hi-tech" innovation there have been several in traditional business pursuits. There always seems to be a better way to prepare and market hamburgers or pancakes. The old frontier spirit is still very much alive in the modern entrepreneur.

Organizing for Entrepreneurship

Although a "how-to" manual for entrepreneurs is inappropriate, a brief review of the business forms and basic components is an important aspect of a discussion of entrepreneurship. For one thing, the entrepreneur does not have to invent something that represents a technological breakthrough to start a successful new company. Most new ventures are based upon the extension of proven ideas. Moreover the structure that a new business takes is necessarily going to involve a single proprietorship, a partnership, or a corporation.

The enterprise also will include marketing a product or service and will require labor and capital. Money can be acquired from personal savings or income, the sale of stock or by borrowing. Taxes, local, state and federal regulations and governing bodies will be involved. Insurance, transportation and communications will be required.

The entrepreneur begins with an idea, or the adaptation of an existing idea or concept. The first problem the enterprising businessman must resolve is to determine if there is a need for the product or service. Is the product or service distinctive, unique or superior to others in the market? What costs are involved in the manufacture of the product or service? And finally, what will a consumer be willing to spend? With this data, much of it necessarily "soft" or assumed, the entrepreneur can project the possibilities of profit or loss.

The next step is ordinarily to raise the necessary capital to begin business. Here the legal formation of the business becomes important. If the entrepreneur is to "go it alone," as a single proprietor, capital resources necessarily come from the individual's savings or from borrowing. The formation of a partnership with two or more persons participating broadens the opportunity for raising capital, for sharing the work-load and for absorbing possible losses. Both the sole proprietorship and the partnership face the significant problem of limited capital and in the case of the partnership, the division of income and responsibilities may not be clear.

Incorporation generally offers many advantages in terms of capital accumulation, definition of profit-sharing, and in defining authority. Ownership in a corporation is equally divisible by shares. Shares may be marketed to a large number of individuals or investors. Unlike the individually-owned business and the partnership, shareholders of a corporation are liable for losses only equal to the value or original investment of the shares they own. Proprietors and partners are liable for losses to the full extent of their personal wealth.

Profits and losses in a corporation can be more easily quantified and allocated. Different kinds of corporations serve distinct purposes. Although lengthy explanations are unsuitable here, one rather popular version of the new business corporation is one organized under Subchapter S of the Federal Revenue Code that allows financial investors

(shareholders) to take losses as personal ordinary losses against their annual income. Section 1244 permits the shareholder to assume a loss from the sale of stock as an ordinary loss, rather that a capital loss (which means a smaller income tax deduction). There are many opportunities for incorporation. The fledgling entrepreneur is well-advised to consult attorneys and accountants familiar with the mechanics of business organization, taxes and recordkeeping.

There are some advantages to incorporation that are not purely financial. Incorporation forces a business to choose a name and in effect define its purpose. Bankers and prospective customers also tend to be impressed by at least the illusion of permanence that incorporation lends a business venture. Finally, incorporation facilitates the selection of a logo or company symbol, the purchase of stationery, literature and the accoutrements of an operating business. Thus the entrepreneurs must weigh many major decisions ever before the door of their enterprise is opened. What makes the entrepreneur different from the businessman is largely the innovation, boldness, and the creativity of the enterprise.

Summary

The entrepreneur contributes much to vitality and to progress in the American economic system. The entrepreneur differs from the ordinary businessperson in that he is an innovator and explorer, opening a new frontier in the development, production, or marketing of an object or service. The entrepreneur deals with new ideas. One must have the vision, courage, and creativity to develop a new concept and manufacture or market it in a successful business enterprise.

Our society encourages entrepreneurship by protecting rights to private property and by encouraging the accumulation of property. Our laws enable an individual to organize and to conduct a business without too much interference. Our culture, that is the frame-work of our laws and social values, emphasizes individualism and self-determination. We believe in change, development and progess. Our society emphasizes opportunity and encourages risk-taking. In such an environment entrepreneurial activities have flourished.

The inventor-entreprenuer, such as Thomas Edison, Eli Whitney, Cyrus McCormick and Herbert Land, moved beyond the first phase of pure invention to the entrepreneurial function of producing and marketing the product. The entrepreneur may also be an owner-manager, as is Mary Kay Ash, whose innovative marketing system created the $100 million Mary Kay Cosmetics enterprise. Similarly, Ray Kroc, who was the guiding genius of McDonald's Corp., revolutionized the marketing of hamburgers and contributed to the creation of the modern "fast-foods" industry.

Some entrepreneurs are largely managers who risk relatively little of their own capital, but through skillful and innovative management

and marketing techniques, create successful business enterprises where they might not have otherwise existed. Alfred P. Sloan of General Motors, Lee A. Iacocca of Chrysler Corporation, and Juan T. Trippe of Pan American Airways are such creative managers.

Despite the changing environment that has brought greater government controls over business activity and private property, the modern entrepreneur is alive and well— and flourishing. Indeed, despite fears that greater government regulation may have discouraged innovation and entrepreneurship there are many "new frontiers" for the enterprising businessperson. The computer industry, for example, has created opportunities in almost every field of endeavor.

Although by definition entrepreneurship involves doing something new, or something old differently, there are basic rules, structures, laws and taxes with which the entrepreneur must contend. One of the basic rules of both business and entrepreneurship is to obtain as much knowledge and information relating to the venture as possible. Thereafter, the entrepreneur sets out boldly into a new frontier where many of the old rules and much of the old information no longer apply.

It is a daring and important journey, a path beset with hazards and pitfalls, that sometimes leads to great personal satisfaction or to great profits. It often leads to a more productive and satisfying economy and society, enriching all our lives.

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Biography of the authors

Dr. Henry Dethloff is a professor and head of the history department at Texas A&M University. He received his Ph.D. from the University of Missouri. His undergraduate work was at the University of Texas and he received his master's degree from Northwestern State University in Louisiana. He is the author of the text, *Americans and Free Enterprise,* and along with Dr. Keith L. Bryant, wrote the text, *History of American Business,* published this year by Prentice Hall.

Dr. Keith Bryant is a professor of history and dean of the College of Liberal Arts at Texas A&M University. Bryant also received his Ph.D. from the University of Missouri. He received his bachelor's and master's degrees from the University of Oklahoma. He also wrote *A History of the Atchison, Topeka and Santa Fe Railway* and *Arthur E. Stilwell: Promoter with a Hunch.*